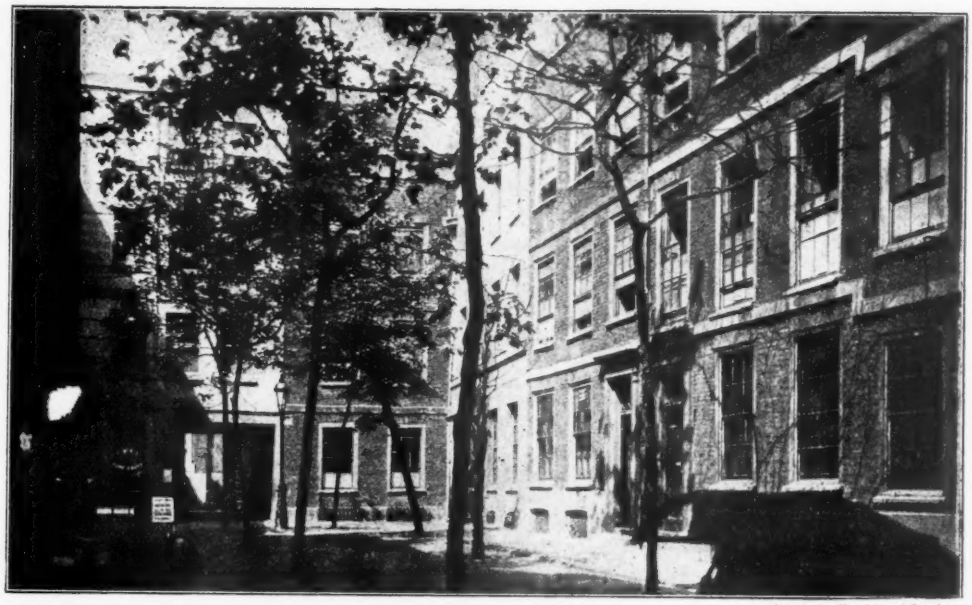


Photo. by Mr. Lionel Gowing.

WARDROBE PLACE, DOCTORS' COMMONS.
A surviving fragment of London as rebuilt immediately after the Great Fire.

THE REBUILDING OF LONDON AFTER THE GREAT FIRE OF 1666.

By WALTER GEORGE BELL, F.R.A.S.

Read before the Royal Institute of British Architects, Monday, 4th March, 1918.

I HAVE nothing to say this afternoon upon the Great Fire of London beyond a very few words, and I will ask you to go with me direct to the ruins, with one word of caution upon the way. In any measure of the public calamity one must not be misled by the mere area of the City and its Liberties as they lie to-day embedded in the vast masses of buildings that we call London. Like all European capitals at the time, Restoration London covered small ground, and that thickly. To the citizen of Charles II. the City and its Liberties were London, and in truth there was not very much else.

A considerable aggregation of houses stretched out towards Clerkenwell and Shoreditch ; a line extended by Lincoln's Inn Fields, laid out in the previous reign, and Covent Garden, and by the Strand to Westminster ; houses were built in Holborn towards St. Giles's, then literally " in the fields," and eastwards was a thin line from the City to Ratcliffe and Wapping. The nucleus of all was the City, which was the commercial and manufacturing and shopping area of the capital. It was the part most densely populated. Any estimate of numbers presents great difficulties, but from such sources of information as are available I believe that the entire population of Greater London, including Westminster, when the Fire struck the City was well under 600,000, and may not have exceeded a round half million. The burden thus fell upon a comparatively small concourse of people, and as a catastrophe the Fire of London was worse in its effects than a like event would be to-day, for fire insurance was then unknown, and the 13,200 houses destroyed, and vast quantities of goods and furniture consumed within them, represented to their owners a dead, irrecoverable loss.

The extent of the destruction is shown in Hollar's so-called " Surveigh " of the ruins. In reality it is a print based upon the careful survey by the six surveyors, the fringe of houses left standing being drawn in. Vertue's well-known print has the same basis.

The flames started between one and two o'clock on the morning of Sunday, September 2nd, 1666, in a baker's shop in Pudding Lane, close by Old London Bridge, and burnt that day till midnight to

Dowgate west, and a little below Bridge east. It was a riverside fire and nothing more. On Monday, the second day, the flames crossed Cannon Street and burnt up Gracechurch Street into the City, destroying Gresham's Royal Exchange, Cornhill, Lombard Street, and the rich merchants' houses thereabout, and a long arm sped west by the Thames-side to Baynard's Castle and Blackfriars. Tuesday, the third day, was the most terrible day of the Great Fire. In twenty-four hours the flames spread with appalling rapidity over an area larger than the whole extent of the ground cleared by the Fire on the two preceding days. Flames crossed Cheapside and reached London Wall at Cripplegate on the north, and burst through the western City gates of Aldersgate, Newgate and Ludgate, destroying nearly the whole of Fleet Street and part of Inner Temple. Fortunately the high east wind, which had driven the Fire onwards, dropped late that night.

On Wednesday, the fourth day, there were large fires at Cripplegate, in Cow Lane, Smithfield, in Shoe Lane and the massed houses north of Fleet Street, and at night a second outbreak in Inner Temple, which was almost entirely destroyed.

On Thursday, September 6th, the fire was out, but flames and smoke continued to rise for days, and even weeks after, among the goods smouldering in the demolished warehouses, in cellar stores, and on the heaped river wharves.

The extent of the destruction I fear is but poorly expressed in figures, formidable though they are :

436 acres of crowded City property were burnt, comprising 13,200 houses, in over 400 streets and courts ;

St. Paul's Cathedral ;

87 City churches (three of which were afterwards repaired) ;

Guildhall, the Sessions House, Customs House, and Royal Exchange ;

Newgate and Ludgate Prisons, the Fleet Prison, Bridewell, and Wood Street and Poultry Compters ;

Three City gates (damaged) ;

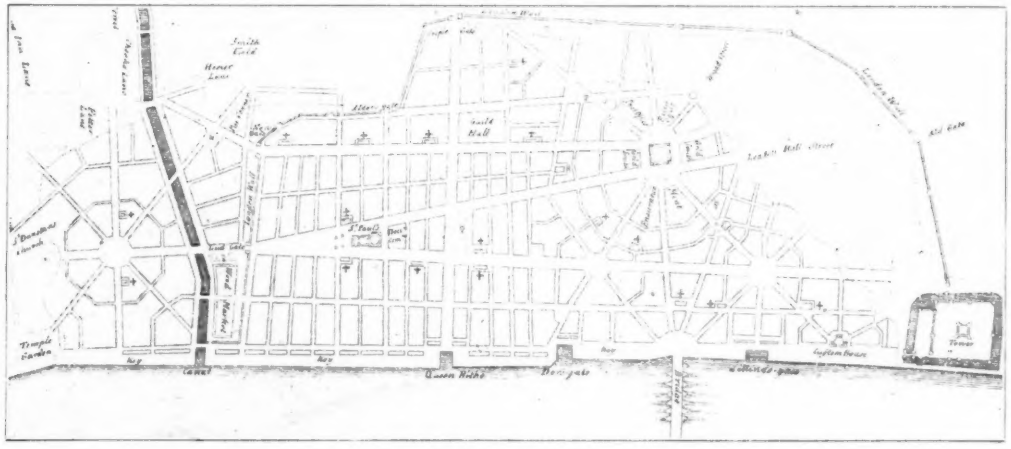
44 Companies' halls.

The King, on September 13th, issued a Royal Proclamation forbidding building until orders for the new City could be prepared. Meanwhile plans for a model London were hastily devised. As none of these could be carried out, I will deal with them briefly. The best known is Sir Christopher Wren's. It was an excellent plan, and one sees in it the great architect's desire to obtain long vistas along which he might most effectively bring into view his churches and towers and spires. Two perfectly straight main roads, each to be 90 feet in width, ran through the City west to east, from Ludgate to Aldgate and from Ludgate to the Tower. Ludgate was to come down, and in its place would be raised a great triumphal arch in honour of Charles II., the builder of the new London. Another straight street, 90 feet wide, traversed the City north to south, from Cripplegate to Queenhithe. A great open quay and promenade was proposed along the Thames-side, from the Tower to Temple Gardens. Adequate roads served London Bridge. A relined Cheapside ran straight from Newgate to the Royal Exchange. A fault of the plan is that the angle of the diverging highways west to east left a quite inadequate site for St. Paul's, and it seems inconceivable that Wren would have been content to build his Cathedral on ground hardly spacious enough for one of his larger parish churches.

John Evelyn's ideas were quite different, though in broad outline his plan is not dissimilar to Wren's. His model City is more Continental in style. He banished the whole of the shipping, warehouses and wharves to the Surrey side of the river, and laid out his town with straight streets and many open spaces, in which last piazzas should be constructed and fountains play. All burial grounds were to be outside the City wall, and there, too, the inns for the accommodation of country carriers and travellers were to be situated. Those of a trade were to be grouped together. The booksellers, for instance, were to be gathered about the Cathedral. He proposed considerable levelling of ground, utilising the rubbish to fill up the Thames foreshore, so that his City stood always upon the water.

Evelyn placed his triumphal arch and grand entrance to the new City east, upon Tower Hill, not west.

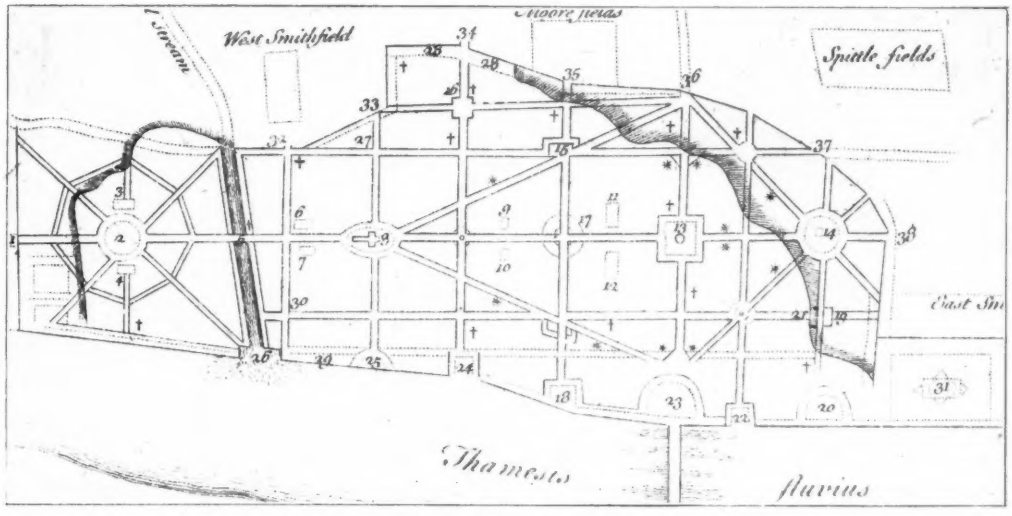
Robert Hooke drew a geometrical plan of straight streets, all crossing at right angles, which would



SIR CHRISTOPHER WREN'S MODEL PLAN FOR REBUILDING LONDON.

have given us a typical modern American city. This we are happily spared. It found some favour with the Lord Mayor and Aldermen.

Valentine Knight's plan—really it is no plan at all—calls for mention only because of its novel



JOHN EVELYN'S PLAN FOR REBUILDING LONDON.

proposal of a navigable canal, with entrance from the Thames at Billingsgate, thence going north into the City to Fenchurch Street, and turning west *via* Lothbury and through the wall above Aldersgate to join the Fleet River, and so back to the Thames again.

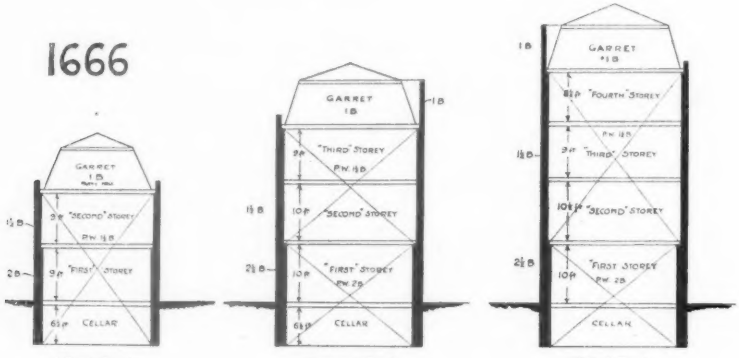
A winter of terrible severity, the coldest known for many years, added to the miseries and

privations of the homeless people. The frozen Thames was packed with ice. Rents for the houses left standing reached unprecedented heights. It was February, 1667, when the Act for Rebuilding the City was passed; in March the City Surveyors were authorised to buy stakes for setting out the streets; in April they staked the first of the highways near St. Paul's; in May the staking out of plots for house-building began—the rigours of winter and the necessity of clearing away the enormous accumulation of debris that covered the ground having caused this delay after the legislative measures were ready.

The City that arose out of London's ashes was built under the nominal supervision of Wren, but his personal attention was small, his time being mainly given to his churches and Cathedral and public buildings. He left to Hooke and the City Surveyors the business of measuring, adjusting and setting out the ground for the streets and private dwellings. Sir John Denham, the Cavalier poet, having the office of Surveyor-General of His Majesty's Works and being irremovable, the King created for Wren the new post of "Surveyor-General and Principal Architect for rebuilding the whole City, the Cathedral Church of St. Paul, and all the principal churches, with other public structures." Wren was but thirty-four years of age when he assumed the greatest burden ever placed upon one architect's shoulders.

On Denham's death in 1669 Wren himself became Surveyor-General of His Majesty's Works, and five years later he received his knighthood.

The important Act for the Rebuilding of the City of London (Stat. 18 and 19 Chas. II., c. 8) I need not enter upon in detail, for it was dealt with in an admirable paper by Mr. Davidge on "London's Bygone Building Acts," read to this Institute in 1914, and printed in your JOURNAL.* The peril of fire always present in a city of timber-built houses having received most emphatic evidence in the recent destruction of London, the Act directed that no house should in future be built save of brick or stone. Four types of houses only were allowed in the new City. For each the thickness of brick walls, heights from floor to ceiling, sufficiency of party walls, scantling of timbers, and much other



First Sort. Fronting By-Streets and Lanes.

Second Sort. Fronting Streets and Lanes of Note and the River of Thames.

Third Sort. Fronting High and Principal Streets.

Roofs of these three sorts to be uniform. Fourth or Largest Sort not fronting on a street or way, height of storeys optional, but not to exceed four storeys in addition to garret and cellar.

detail were set out in scheduled tables. The drawing here reproduced, showing sections of the first three types of houses, I take from Mr. Davidge's paper.

The Act is of considerable length, and with the Additional Building Act, three years later, it should be carefully read by those desirous of knowing the conditions in the new City. It made

* Vol. XXI, 3rd ser. pp. 333–369.

provision for the straightening of streets, the widening of others, and the reduction of steep acclivities. Its labour clauses are highly important. Labour by City "freemen" alone obviously must have been insufficient for the many thousands of dwellings and public buildings that had to be raised. Accordingly the guilds in the building crafts were despoiled of the cherished monopoly they had enjoyed for centuries. Workmen from any part of the Kingdom were by the Rebuilding Act made free to work in London, any law or custom to the contrary notwithstanding. Those labouring in the rebuilding of the City for seven years were to receive the freedom. Combinations of workmen to raise wages or of manufacturers to raise prices were forbidden. Wages and prices might, on complaint by the Lord Mayor and Aldermen, be fixed by the Judges.

There are several houses still standing which were erected under the Rebuilding Act passed within six months of the Great Fire. In Wardrobe Place, Doctors' Commons, there survives a charming corner of London as rebuilt immediately after the Great Fire, with its trees and shade and strong sunlight, which stands to-day largely untouched. Three little shops in Cheapside, at the Wood Street corner, are still more familiar. They were built in 1687, as a tablet upon the rear wall tells, and are the only surviving examples of "the first and least sort of building," of two stories, for by-streets and lanes, authorised under the Rebuilding Act of 1667. Each house consists of two rooms only, one above another. Standing three together to-day, there were originally four. They happened to come upon such important frontage as Cheapside by reason of the fact that the site is very shallow, only a few feet, and insufficient for larger dwellings.

A corner house in Watling Street, known as "Ye Old Watling Restaurant," a type of the second sort of building, of three stories, "for streets and lanes of note," authorised under the Rebuilding Act, happily still stands in the City, and to my mind it is one of the best examples of the dwelling-house and shop of Charles II. that we have. It dates from about 1668-70, and it has been claimed for it that it was the first house built after the Great Fire of London. That claim, I must allow, has been shared by a good many others.

Another familiar house in Cheapside is No. 37, which has on its wall the stone sign of the Chained Swan. It is a type of the third sort of building, of four stories, "fronting high and principal streets." A modern tablet has been placed upon it stating that this is the only house in Cheapside which escaped the Great Fire. If that be so, we may congratulate the builder upon the sagacity with which he was able to forecast the clauses of the Rebuilding Act passed six months after the Fire.

In that wholly delightful building, No. 34, Great Tower Street, we have what is, I think, the finest surviving example of the house built immediately after the Great Fire. It is a type of the fourth sort of building authorised by the Rebuilding Act, or City merchant's mansion house, "of the greatest bigness." The elevation speaks for itself. On the ground floor you find the merchant's office still in use exactly, I imagine, as it must have been in early Georgian days. What were originally the merchant's dining-room and ante-rooms extend the full length of the first floor, and contain some rich carving. This house is one of the treasures of the City, and in the careful hands of my friend Mr. Yeatman, whose enthusiasm for its preservation is certainly not less than my own, I am glad to know that no harm is likely to befall it.

Other City houses are standing of the period of rebuilding just after the Great Fire of London. In Godliman Street, close by St. Paul's, is a corner house now used as the Faculty Office. The curious timber framing amidst the brickwork, as it appears to be in the actual building, is at the present time covered with cement, and whether there are timber beams behind or not I cannot say. There are houses in Crane Court, Fleet Street, one of which is excellently preserved and bears over the door the date 1671, and in Racquet Court, Fleet Street. A tall house in Savage Gardens presents no particular architectural features, but is one of the few ancient houses spared by the Port of London Authority when making their great clearance about Tower Hill. Then a picturesque corner building in Milk Street, Cheapside, is known, no doubt, to many of you. A pair of fine old houses, now used as one,

fills the back of Bow Churchyard, Cheapside, and must date very close to the Fire. Others besides these may be seen in a walk through the City streets.

The Canons' houses at Amen Corner stand on the site occupied by the Royal College of Physicians which was destroyed in the Great Fire. The College abandoned the site in 1670, and the buildings, now enlarged at the rear, were erected shortly afterwards.

The greatest aid in the rebuilding of London was unquestionably that given by an Act of Parliament which has been little appreciated and understood—the Statute 18 and 19 Charles II., chap. 7. which set up the Court of Fire Judges. Any three or more of his Majesty's Judges were authorised to hear and determine all differences between landlords, tenants, occupiers and others concerned, of buildings burnt or demolished in the Fire, with appeal to a Court of seven Judges. The broad principle of the Act is set out in the significant words of the preamble, a sentence of which reads : "*And for that it is just that everyone concerned should bear a proportionable share of the loss, according to their several interests* . . . be it enacted," etc. The Act was, in fact, the negation of all law. All rights of parties enjoyed under leases or bonds lapsed ; the Court first sought to ascertain, not upon whom the onus of rebuilding fell under the lease, but whether landlord or tenant was best able to rebuild speedily, and acted equitably between the different interests.

Where the landlord was without means to reinstate the tenant in his dwelling, the Court would give the tenant leave to rebuild at his own expense, compensating him by an extension of the term of his lease and a reduction of rent.

Where the tenant was broken in fortune, the Court would cancel his lease and relieve him of liability.

Where landlord and tenant were alike ruined, London's interests were protected by a provision in the Rebuilding Act that any sites not built upon after lapse of three years should, after nine months' notice given, be seized by the Lord Mayor and Aldermen and sold to a builder, the proceeds of sale going to the landowner. This power of seizure was twice postponed by subsequent Acts of Parliament, and, in fact, it was never exercised.

The Fire Court decided some hundreds of disputes, and its influence was far reaching. Other thousands of differences were amicably settled ; the knowledge that it was open at any time for the tenant to appear without charge before the Judges checked the rapacity of the grasping landowner, inducing him to accept terms, lest worse should befall him.

London after the Great Fire remained for a decade, and then for a second decade, a city marked all over with ruins.

It is plain that Parliament had no conception of the immensity of the task which confronted the citizens in restoring London. Its only financial contribution was the Coal Dues, which themselves were partly borne by the distressed citizens, so little assistance did they receive. The shilling duty originally imposed brought in to Midsummer Day, 1670, close upon four years after the Fire, only £32,630. The sum was ludicrously insufficient, and that year the Coal Dues were raised to 3s. per ton and the term extended to twenty years, till 1687 ; in fact, they survived over two centuries until repealed by Lord Randolph Churchill in our own time. Accumulations of the Coal Dues over long years paid for St. Paul's, for Wren's City churches, for many public buildings and for street improvements. If we complain of the grime that since has gathered about the walls of St. Paul's and elsewhere, let us in honesty remember the vast debt that London owes to coal, the one source of revenue which made possible the fulfilment of all Wren's majestic conceptions that are still our heritage.

All Londoners know the Fire Monument, though little, perhaps, of the inscriptions upon it ; but one of these has been so often repeated that this at least should be familiar. "London" (it says) "rises again, whether with greater speed or greater magnificence is doubtful, three short years complete that which was considered the work of an age."

In three years ! It is not true, and the statement has done incalculable mischief. This boastful

legend has belittled the vast work accomplished by the citizens, making it appear as nothing ; that in three years a new London complete, richer and more magnificent, stood on the ground over which the flames had ravaged. I have to tell a plain tale, extracted with much labour from surveyors' returns, from building accounts, the minutes of the City Corporation and craft guilds, and memoirs and letters, of how after long effort—and not in three years—the task was carried to completion against difficulties that might have seemed insurmountable.

The Fire, destroying 436 acres of City property, swept away in four days much of the City revenues and the revenues of the Livery Companies. Merchants were reduced in fortune, and many ruined. The City Corporation, with commendable enterprise, shouldered the task of restoring order out of the chaos, always importunate for money, but happily with credit good enough for a loan. Its treasury was filled and emptied vicariously. Loans to the King were outstanding, and only with the greatest difficulty were collected.

Yet much was done by aid of loans, fines, receipts from the Coal Dues, and other sources. I mention the chief of the public buildings, enough to throw over the three years' legend. The new Royal Exchange, built at the joint charge of the Mercers' Company and the City Corporation, was opened in September 1669. Guildhall was under scaffolding nearly ten years, as the work went on continuously till December 1675, the expenditure then having totalled £37,422. Newgate was patched up sufficiently to serve its historic purpose as a gaol till 1670, when the work of new building was begun in earnest, and five years later, in 1675, was completed. Ludgate was repaired and its prison rebuilt between 1670 and 1673.

In the matter of private enterprise the Livery Companies, to their enduring credit, led the way in the rebuilding of London. The disaster fell upon them with crushing severity. Forty-four of their halls were burnt, and only seven, so far as I can trace, escaped the flames. Their first thought was the restoration of their halls, and the task was begun in many cases before the dwelling-houses and warehouses of individual liverymen could be rebuilt. It was financed by subscriptions and loans from the richer members, by sales of property left standing, the sale or pawning of plate, and assessment upon members. The Fire of London reduced a large proportion of the Companies to penury ; their revenues from City endowments were lost, benefactions and pensions had to be withheld, and many of them never thereafter recovered their prosperity.

Samuel Rolle in the spring of 1668 estimated that there were then eight hundred houses rebuilt in the fire-swept area ; some thought more. " It is," he said, " an ill prospect, and a ghastly sight, for those who look from the balconies or tops of their stately new houses, to see ashes and ruinous heaps on every side of them—to see ten private houses (besides churches and public halls) in the dust for one that is raised again." The larger number of buildings erected on the ruins were let to alehouse keepers and victuallers, to entertain workmen employed about the City. In Cheapside and other centres of commerce merchants had built dwellings, but refrained from going into them until the neighbourhood be increased, fearing thieves as well as unprofitable trade.*

That is a picture of London nineteen months after the Great Fire, which, as I have already stated, destroyed 13,200 houses. Rolle's estimate of eight hundred new buildings is probably over rather than under the mark, for up to December 1667 the City Surveyors had staked out foundations for houses only in some 650 odd cases, so slow had been the recovery after the Fire. But a period of greater enterprise was at hand. I give only a summary of the figures.

In the first six months of 1668 a beginning was made with the erection of 1,200 houses, the progress made in new building, as might be expected, falling off towards winter.

In the spring of 1669 a somewhat larger number of new houses were under scaffolding than in the previous year, in round numbers about 1,400.

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* *The Rebuilding of London*, 1668.

This rate of construction was continuous until the autumn of the year 1670.

Thereafter it greatly slackened, and labour, being less in demand for private dwellings, was diverted to the erection of public buildings and churches. In estimating the progress made in rebuilding the City as a whole, it must be borne in mind that at this time—autumn 1670, four years after the Fire—not more than a dozen of the forty-four Livery Companies' halls destroyed by the flames had been rebuilt and placed in use, and that the Guildhall, Custom House, Blackwell Hall (the City's cloth market), the prisons and the gates were also unfinished. Not one of the eighty-four City churches destroyed had been replaced. The decision to build the first of the churches was taken in 1670, and in that year a start was made with fourteen of their number.

Labour in the building trades gravitated to London from all parts of the Kingdom.

The King, to encourage rebuilding, remitted the Hearth Tax for seven years on houses newly built in London. Land frequently passed to new ownership, or, where the freehold was retained, the building tenant was allowed a peppercorn rent for a series of years, or a reduced rent for the term of a lease. A common basis of valuation of City land was that the annual site value was one-third of the combined rental of house and ground. In places where street improvements gave land lying back an important frontage its value rose to as much as 15*s.* a foot. Values change: in our own day £50 a foot has many times been paid for freehold City sites.

Most divergent views have been held concerning the relative cost of building under Charles II. and to-day, and some have thought that prices have advanced three, four, and even five times. A basis of comparison, and thereby some idea of the charge of rebuilding London, can only be obtained from priced accounts of labour and materials. A key to the solution of this problem is forthcoming in the discovery by Mr. Lawrence Weaver, among the Rawlinson MSS. at the Bodleian Library, of Wren's complete building accounts for the City parochial churches. Mr. Weaver recently read a paper before the Society of Antiquaries on these accounts,* and he had the good fortune to inspire Mr. William Lunn, senior partner of Messrs. Widnell & Trollope, to undertake the laborious task of pricing all the items in the construction of two important churches at the rates prevailing just before the European War.

The result is somewhat surprising. Wren's building cost for St. Mary-le-Bow, Cheapside, was £15,473. The church could be built to-day (materials and labour, that is) for no more than £38,500—an addition of 150 per cent. to the original cost. St. Stephen Walbrook, which is held by so many architects to be the finest of all Wren's churches, cost Wren £7,652; to-day the contractors' bills would amount to £15,408—an addition of 100 per cent. to the original cost. The larger percentage of increase in the case of St. Mary-le-Bow is due to the more extensive use of masonry in that church. It is the small details of these bills, the sums paid to individual craftsmen, and the prices of bricks, timber, plaster work, painting and carting, that are most informative upon the cost of rebuilding the citizens' houses.

Labour, as was to be expected, accounts for the larger part of the increase. The unskilled labourer of the Restoration received 1*s.* 6*d.* per working day of ten hours. To-day he would be paid 7*s.* 6*d.* Skilled craftsmen's wages were equally low. Carpenters were content with 2*s.* 6*d.* to 3*s.* 6*d.* per day, according to the work, where to-day the payment would be 11*s.* 8*d.* Bricklayers receive three times the wages paid by Wren; skilled masons slightly more. The great increase in wages has been compensated in part by cheapening in the manufacture of materials and use of machinery. Ironwork remains at about the same price, the plates, bars and rods now turned out by rolling mills having at the Restoration to be forged by hand. Brickwork per rod has advanced from £5 10*s.* to £17, bricks per M from 14*s.* to £1 16*s.* Wren used lead very generously. Its price per cwt., with labour, has risen from 17*s.* 6*d.* to £1 10*s.*; plain plastering on walls, per yard, from 7*d.* to 1*s.* 2*d.* The only item

* Printed in *Archæologia*, vol. lxvi., p. 1.

actually less in cost to-day than in the latter half of the seventeenth century is painting, which for three oils per yard was 1*s.*, and now is 10*d.*, the advance in painters' wages being more than compensated by the improved manufacture of colours. I hope I have made it clear that these are standard prices before the labour and market disturbances caused by the Great War ; prices to which we may—or may not—return.

After the Fire of London the Surveyors reported 13,200 houses destroyed. Land was taken for widening streets and establishing markets ; alleys were abolished. Much slum property, wooden hovels built back to back, which are unduly dignified with the name of house, gave place to more sanitary brick dwellings. Larger buildings were favoured ; and for all these reasons it is unlikely that the houses newly built in the City exceeded nine thousand in number. The reduction is strikingly large, and indicates that the improvement of London after the Great Fire was more important than has been generally conceded—much larger, in fact, than I had been prepared for ; but I have been compelled to accept these figures after perusal of the accounts of payments for staking out foundations, which apparently are complete.

There are several contemporary estimates of the loss occasioned by the Great Fire of London, the most detailed of which places it at £10,788,500 in then money values. In this estimate the 13,200 houses burnt are taken one with another at £25 rent at the low rate of twelve years' purchase, a flat rate valuation of £300 each. Interest was high in Charles II.'s time, 8 and 9 per cent. being not uncommon, so the average of twelve years' purchase may not be far out.

The flaw in all calculations is the impossibility of striking any but an approximate average of the cost. In a little handbook, *The Purchaser's Pattern*, published in 1676 for guidance of builders and investors, example is made of the third sort of house, for important street frontages like Cheapside, four stories high with additional garrets and cellars—a house, for instance, like " the Chained Swan." It says the cost of such a building cannot exceed £400. Taking £300 as a flat rate of the actual cost of each of nine thousand houses, and two and a quarter as an average ratio of increase in building cost to-day, we arrive at £6,075,000 as the burden borne by the citizens in rebuilding their houses expressed in modern money values.

Funds from public sources collected, like the Coal Dues, over areas larger than that swept by the Fire restored the City's public buildings that were destroyed, and with the passage of many years St. Paul's Cathedral and the City churches also. State funds met State losses, as at the Custom House and elsewhere ; the Crown from its widespread revenues made good its devastated property in London ; the corporate guilds rebuilt their halls, though often reduced to penury ; but whence came all the money for rebuilding the thousands of private houses consumed in the Fire I frankly confess I do not know, unless it be the stocking hoard. The fact of the accomplishment remains. There was no scheme of public assistance.

It was an age when large affairs of commerce were conducted without banks, without insurance ; a time when the careful merchant stored his money bags under his own roof, jealously guarding them against theft. The diligent reader of Pepys's *Diary* is kept informed how his money bags expanded in bulk and in number, the golden guineas hoarded away, first in hundreds, then in thousands—the bags of gold that he carefully removed to Woolwich away from the peril of the Fire, as no doubt did many another City merchant when the threat came near his house. The City merchant saved, unlike the spendthrift courtiers in the West-end. Time and again, as the long experience of City loans has shown, the merchants' hoard bore the national burdens, and now it came out to restore the burnt City.

After the first shock and paralysis caused by the Fire there followed a period of a few brief years when rebuilding made rapid progress. London, living largely upon the capital which flowed out with much prodigality, appeared outwardly to be prosperous. But such appearances were entirely illusory, just as appearances are to-day in the midst of the European War. At the close of the period 1668-73, when the rebuilding had gone so far that the commercial needs of the capital were for the greater part

satisfied, trade was gravely depressed. Dwellings and shops were unlet, wanting tenants. It is startling to learn that there should have been in 1672, as a contemporary writer asserts, whole streets of houses new built within the City standing uninhabited, "and no person so much as asks the price of any."

An address by the citizens to Parliament in the year 1674 sets out that houses in the City still empty and sites yet unbuilt upon numbered three thousand, being nearly one-sixth of the total in the City and Liberties. Large sums of money formerly employed in trade had been withdrawn for rebuilding; moreover, many City traders had settled in the out-parishes, and, finding the burdens there lighter, would not return.

A city of nine thousand houses newly built rose out of the ruins, and a curious thing is that not one architect's name is identified with it. At other times architects of genius have stamped their names upon their style and generation, but the greatest opportunity ever afforded in domestic architecture, at least in this country, by the rebuilding of London, passed without producing any notable man. Sir Christopher Wren there was, of course—but Wren, engrossed with so much other work, did not build the nine thousand new dwelling-houses, nor does the name survive of any designer. The model of the brick house had been evolved in earlier years by Inigo Jones and John Webb, whose buildings display complete mastery in the use of brickwork for plain wall surfaces; and the general principles they set out were followed with few modifications in the streets of new houses erected after the Great Fire.

Four classes of buildings only were allowed under the Rebuilding Act, and the specifications secured a uniformity so conspicuously lacking before. But it would be folly to imagine that the new City was built on four architects' drawings. There was great variety in the proportions of houses and in simple decorative treatment. Rubbed brick for window dressings, as well as for other architectural features, had been introduced about the time of the Restoration, and its use was much developed. The Lord Mayor, Aldermen and Commons, in an order of 8th May 1667 instructed the Surveyors to encourage all builders, "for ornament's sake," to employ rubbed brick in their ornaments and projections on the fronts of buildings, and to make their plain surfaces of bricks neatly wrought or rubbed at discretion. Artistic care was lavished upon highly decorated doorways and the detail of eaves under the roofs. Balconies stood out to the high streets from the fronts of the larger houses —they were required by the Act. The signs again swung over the footways. The pretty casement windows of the old City were restored; though the sash frame was known, its use was not general till at least five-and-twenty years later. The bow shop-window, so admirable a feature of eighteenth-century London, came in with the Georges.

The City was repopulated long before the new churches were ready for the people. Fourteen churches only had been completed by 1678, twelve years after the Fire, besides three repaired, five others being far advanced. By the year 1683 London possessed twenty-five of its new churches, seventeen others being nearly finished. It was then seventeen years after the Fire; three churches were but lately begun, and there were still six others awaiting to be commenced from the foundations. St. Paul's Cathedral still required twenty-seven years for completion. Facts like these, added to what has been said concerning the time required for the public buildings and streets of new houses, make ridiculous the claim upon the Fire Monument that London, more magnificent than ever, was restored complete in the short span of three years. Of course, no one with any gift of inquiry could have taken it seriously, but it has done much evil.

The sanitary improvement of London which followed the Great Fire is too large a subject to be dealt with adequately at the end of a paper of this length. The Act of 1671 is London's sanitary charter. It enlarged and made permanent powers which had been given tentatively in the Rebuilding Act. The Lord Mayor, Aldermen and Common Council were authorised to nominate a body of persons who should be the sole sanitary authority for the City. They were to appoint the places for all sewers,

drains and vaults, and be responsible for their scouring and for the pitching and paving of streets. All other commissioners whatsoever were forbidden to meddle in these matters. They had authority to charge the cost upon the owners of all houses benefiting, and to make assessment of a sanitary tax on the several Wards from time to time. London at last had a central, effective and all-embracing sanitary authority. I do not suggest that the conditions thereafter prevailing would be considered satisfactory to-day, but they were a noteworthy advance on the previous state. It may not be true, as old writers asserted, that the Great Fire, by burning deep down into the ground, burnt out the Plague which had become harboured in the soil; but to the destruction of so many streets of dark and evil timber-built houses, falling or fallen into decay, and the opening up of the worst areas and the general sanitary improvement which followed, we owe the fact that for two and a half centuries never again has the Plague visited London.

I am conscious of having omitted a great deal in an endeavour to cover so much ground within the space of a single paper; but may I say that the results of this inquiry in greater detail will be available, I hope before long, in book form for your members who may be interested in the subject?

DISCUSSION ON THE FOREGOING PAPER.

The President, Mr. Henry T. Hare, in the Chair.

Mr. PHILIP NORMAN, LL.D., F.S.A.: I have much pleasure in proposing a cordial vote of thank to Mr. Bell for his interesting paper. I have alway respected his attainments in London topography, from the time when I read his book on Fleet Street, and found that he had been diligent enough, and fortunate enough, to hit off a fact which my friend the late Dr. Wheatley and other members of the Pepys Club had failed to discover, though they would have given their eyes to do so, namely, that the immortal Samuel was born in the parish of St. Bride. Now that he has turned his attention to the subject of the Great Fire I am sure he will work at it with the same thoroughness he has shown in producing his book on Fleet Street. Some of those present may regret that Wren's plan for rebuilding London was not carried out after the Fire; but I do not quite agree with that. No doubt he would have made of it a fine city, but he would have swept away many things of great interest. We should have lost the historic streets, and the historic sites of churches and Companies' Halls, probably also the unburnt portions within the walls. I think therefore that, on the whole, it was better for us to have the City rebuilt as it was than on Wren's plan, or even on a modification of it. In one respect he showed himself nearly two centuries ahead of his time, that was in his suggestion of extra-mural burial, which did not become the law as applied to the City until after 1850. According to his original plan there was to have been an esplanade from the Tower of London to Blackfriars, and the Halls of the twelve Great Companies would have been united in a Square by the Guildhall. There is a slight question about what he really proposed in this respect, for in the *Parentalia* "a late Critick," quoted with approval, after mentioning that Wren had "plan'd a long and broad wharf or quay," adds that he "there design'd to have rang'd all the Halls that belong to the several Companies of the City, with proper Warehouses for Merchants between, to vary the Edifices, and make it at once one of the most beautiful and most useful Ranges of Structure in the World." Perhaps he meant to place the numerous halls of the lesser Companies there, and they would have looked fine along the river front. I have been studying the City Halls a good deal in a desultory way, and venture to remark that although Elmes, in his account of Sir Christopher, names him as the architect of something like a dozen of them, I have never yet been able to discover that he designed any Hall in the City, but as a rule they were rebuilt in what we might call Wrennian style. It has been sometimes said that Merchant Taylors' Hall was designed by him; nowadays, however, we know that this was not the case. By degrees it has been discovered, partly during repairs and excavations, partly through the researches of Mr. H. C. Hopkinson, a past Master, that, although in a district round which the Fire raged fiercely, the banqueting hall, the mediæval cellar and crypt escaped with no very serious damage. The general plan and to a large extent the masonry of the hall belong to the latter half of the fourteenth century; the kitchen was a little later. A few other isolated buildings within the area supposed to have been destroyed by the Great Fire escaped. One that I knew must have been just on the borderland. This was No. 4 Coleman Street, adjoining the offices of Messrs. Colls & Sons (now Trollope & Colls), pulled down and the site absorbed by them about the year 1896. There was a room on the first floor of that house which was distinctly Jacobean in style. I made a drawing of it, now in the Victoria and Albert Museum. The funds at Wren's disposal for the rebuilding of City

Churches were limited, thus it happened that, wherever he could, he utilised the walls and towers which remained. The lower parts of several towers of Wren's churches still in existence obviously belonged to the former building, for instance those of St. Anne and St. Agnes, St. Andrew Holborn, St. Mary Aldermanbury, and St. Mary Aldermary. When one of his churches has been destroyed, an act of vandalism which I hope will not occur again, important mediæval remains have often come to light. For instance, when the church of St. Michael, Wood Street, was pulled down, which to outward appearance was a very plain building, no more than an oblong apartment with a tower at the west end, it was shown to have had originally a south aisle, and when the plaster was removed, the ground stage of the tower was revealed almost intact as part of a building which, from documentary evidence, we know to have been erected on a vacant piece of ground bequeathed for that purpose under a will dated 1429-30. The walls also contained much ancient masonry and encaustic tiles, and many fragments of mediæval glass were dug up. Much the same thing occurred at St. Michael's, Bassishaw, destroyed immediately afterwards. The tower was also of the fifteenth century. Chalk foundation walls came to light, and at the east end of the south aisle I saw the entrance to Sir John Gresham's vault, and read the inscription on it. He was uncle of Sir Thomas, ancestor of the Leveson Gowers of Titsey, and died in 1557. Mr. Bell has described the rules laid down for the building of four types of house of varying degrees of importance after the Great Fire, and has shown us on the screen examples of such houses still remaining. The list could be extended. For instance, there is the so-called "Old Mansion House," No. 73 Cheapside, said to have been occupied by a Lord Mayor during his term of office before the building of the present Mansion House. In modern times it was Mr. Tegg's, the bookseller's. The frontage looks unpromising, having been modernised, but the staircase, with massive turned balusters, must date from immediately after the Fire. Numbers 32 and 33 Mark Lane are also interesting examples of houses claiming considerable antiquity. They stand back, at the end of a narrow courtyard, and at each end of a passage under No. 32 is a handsome doorway with elaborately carved pediment. Behind this passage was formerly a garden, now built over, and on the left stands No. 33, which appears to have been originally an added wing of the other house. It has a staircase with some delicately carved woodwork and other decorative features, but unfortunately has been somewhat damaged by a recent fire. I do not claim for it that it is of the period dealt with in Mr. Bell's lecture; I think, however, that it was added to the older house at about the end of the seventeenth century. A few years ago there was a very fine old house in a courtyard opening into Botolph Lane, with a back entrance in Love Lane, which was latterly used as the Tower and Billingsgate Ward School. It was called Sir Christopher Wren's house, the idea having been started apparently by Mrs. Riddell, who, in her novel called *Mitre Court*, made it the abode of her heroine. There is no contemporary evidence of Wren ever having had any connection with it. On the staircase it bore the date 1670, and to the left of the entrance there was a small room (only 18 ft. by 15 ft.) which had a handsome plaster ceiling and mantelpiece, and was panelled throughout, and covered from floor to ceiling with paintings of tropical scenes. Fortunately we know the name of the artist, for one of the panels is signed "R. Robinson, 1696." Soon after the beginning of this century the house was threatened with destruction; efforts to save it were vain, and it was pulled down in the year 1906. The fittings, however, of the small room just mentioned were carefully preserved by the authorities of Sir John Cass's foundation, into whose hands they had come, and on the building of the Cass schools in Duke Street, Aldgate, they were placed in a room specially designed to contain them. The paintings can now be seen to much greater advantage than formerly, as they have been freed from many layers of brown varnish, and one can enjoy a most pleasant example of colour decoration of its period.

PROF. BERESFORD PITE [*F.*]: It gives me considerable pleasure to second this vote of thanks to Mr. Bell for his important paper. I do not know that it would be proper to add anything to the vote of thanks, but Mr. Norman's exceedingly interesting remarks have also given value to the occasion. To us, as professional architects, who have come into existence and growth as a practising guild in London since the Fire, this subject is one of peculiar interest. Architects did not exist in any sense as a profession until Inigo Jones, our great begetter, began professional work from the basis of the draughtsman and artist. Then Sir Christopher Wren, on account of his scientific attainments, obtained the confidence of the Government and his place on the Commission for the repair of Saint Paul's, and, ultimately, on the Commission to rebuild it, and his place on the Commission for rebuilding the City churches. Mr. Bell's clearness as to the absence of architects and architectural work on the rebuilding of London, makes the position of Wren very significant and important; and, I suggest, it makes our position, as a guild of professional beings who came into existence since that date, also interesting. It would be interesting if we could visualise what a capital city was like at the date of the Great Fire of London. Paris, with its charming places and residences of kings and the nobility—from which our modern type of street architecture has grown—was, in its other portions, I do not doubt, a dense mass of slum horror and remained a squalid mediæval city, intersected by thoroughfares, though containing these charming places. In Rome, the case was different, for at this epoch they were laying out great thoroughfares across the City, employing archi-

tects to design continuous street façades. The point I would make and suggest is, that there was no street architecture, consequently there were no street architects, until Inigo Jones introduced the idea into Lincoln's Inn Fields of combining houses into a façade. There was the Gothic house, with its own gable, its own projections, its own bow windows; but there was no idea of continuous architecture, of street architecture, or the grouping of houses together. There was none of the stock in trade of the ordinary architect: that had yet to be created. Architecture was an art in the hands of Inigo Jones: it was a science in the hands of a scientist like Sir Christopher Wren. From the work of those two extraordinary men we have derived our very fine school of English Renaissance. And it is worth while bearing in mind that the conditions in England should be compared with the conditions on the Continent suggested by Paris and Rome. You have to reflect that there grew up baroque architecture on the Continent which we did not have at home: there is nothing representing in England the aggressive baroque and rococo of Continental architecture. There may be other things to say about that, but I suggest that the Puritanism and the English habit of mind are reflected in the restraint throughout the whole of the eighteenth century architecture. It has been interesting to reflect that there were no architects because there was no civil architecture, and that our Renaissance architecture grew up between Inigo Jones' and Sir Christopher Wren's enormous visionary schemes, especially in Renaissance ecclesiastical architecture. It is interesting to try to visualise the epoch. Blessed are our eyes, for they see Westminster Abbey: the mediæval builders never did complete it. Henry VII. Chapel and the western towers, and even the western end of the nave, were incomplete at the time of the Reformation. We try to visualise Pepys and Robert Walpole, but did they see St. Paul's? No. Again blessed are our eyes, for they see. That wonderful building was not completed for more than thirty years after the Fire, or was not commenced, I think, for three years after the rebuilding of the City had begun. Thousands of pounds had been spent in trying to patch up the old Cathedral before the Commissioners made up their minds to start a new one. When these things come home to us, the mental background with which we read Pepys is considerably altered.

MR. W. R. DAVIDGE [*A.*]: It would be interesting if Mr. Bell would indicate to us any facts which have a direct bearing on the catastrophe of the present time. One of the difficulties in connection with the rebuilding of a mighty city would be that of bricks; bricks would not be available for at least a year, and the brickfields in the neighbourhood would be extremely busy providing for a supply which was so abnormal. In that respect the vast reconstruction which will come after the war will have some bearing on what we have heard. I wonder whether Mr. Bell has come across anything in his researches showing any preferential system or Government control of particular classes of buildings, which might have a bearing on what might have to be done at the present time. There must be some form of consideration, at any rate, as to what the forms of new construction after the war shall be, and anything which Mr. Bell can show bearing on the present position will, I think, have a very particular value and interest. I think there is a great deal of up-to-date as well as of historic interest in the way in which the Building Acts were administered after the Great Fire. We find a valuable prohibition against "rings" to force up prices of either material or labour, another provision allowing for the charging of "betterment" on premises improved, and so on, and I would like to hear if there were any inducements held out to country builders, or to builders on the outskirts of London, to come and work after the Fire, or was it simply a question of supply and demand? Disputes were undoubtedly dealt with by a firm hand and it would be interesting to know whether, apart from the four classes of building, there was also control as to what buildings should be erected. I have always been somewhat puzzled by Ogilby's map of 1677 which shows the whole of the City rebuilt at that particular date, with practically no vacant sites, and would ask whether Mr. Bell has found that map to be correct, or whether it records the allocation of the sites of buildings only. It suggests that by that date London had been thickly rebuilt. Indeed, it shows parts of London already overcrowded at certain places, possibly on the margins of the Great Fire. I feel that at this time we have a great deal we can learn from the precedent of the Great Fire of London, which was a great catastrophe, and was dealt with in a statesmanlike way.

THE PRESIDENT, in putting the vote to the meeting, said they were all very much indebted to Mr. Bell for the care and labour he must have devoted to his research into this matter. They should look forward to his book on the subject with very pleasurable anticipation.

MR. WALTER BELL, after returning thanks for the vote, said: I must not, at this hour, take up your time with a long reply. Dr. Norman, with the very kind remarks which he made concerning myself, raised one or two questions. He spoke particularly about the number of City Companies' Halls the rebuilding of which has been attributed to Wren. So far as what I may call the unscientific history of London is concerned, I think all the City Companies' Halls have been claimed as having been rebuilt by Wren. There was another architect, Edward Jerman, or Jarman, the City Surveyor, who was largely employed by the Livery Companies in building the Halls. No doubt his work was overlooked by Wren, but it was Jerman's work, and Wren has got the credit for it, or for the greater part of it. Wren, of course, was very much engrossed with the designs and construction of his many churches and the Cathedral, and also his

public buildings—he was able to crowd a vast amount into his wonderful working day, but he could not do everything. Dr. Norman also mentioned the fact that a good deal of mediæval work remains in several of the London churches. It was the practice after the Fire, and was provided for in the Rebuilding Act, that the stones of churches not to be rebuilt should be used in the new churches. As a matter of fact, in many cases Wren kept the foundations of the destroyed churches for use in the new buildings, and often walls up to 10 or 20 feet, which he recased, and several of his towers contain or still show the original mediæval masonry. In the tower of St. Mary Aldermary, you can to-day see the marks of the Great Fire on the lower courses. As to the number of houses built after the Fire that are still standing in the City, I was able to picture to you on the screen several of them, but those I showed must in no sense be regarded as a complete representation—there are many others surviving. I know the house in Mark Lane to which Dr. Norman referred, and I would like to learn what was its date. I have heard divergent views upon it. Some have said it was built before the Great Fire and others have placed it as late as Queen Anne. My own view is that it is a house of about William and Mary. [A speaker: There is one head of Queen Mary and one of King William, and the staircase is mahogany.] That was my own impression, that it was a William and Mary house. The second house, in Cheapside, to which Dr. Norman alluded, is now occupied by Elkington's, the silversmiths, and it was known for many years as the Lord Mayor's House. Tradition says it was built for Sir William Turner, Lord Mayor very shortly after the Fire of London, and undoubtedly in that house many Lord Mayors have held their mayoralty. Another house which was used for the mayoralty was Sir Robert Clayton's, in Old Jewry. About the middle of the eighteenth century the present Mansion House was built, and Sir Crisp Gascoyne was the first Lord Mayor to occupy it. I was very glad to learn, which I did not know, that the fittings and plaster-work from Wren's house (so-called) in Botolph Lane had been saved; I feared that all had gone. The house was much of the same type as that which I showed, No. 34, Great Tower Street. I was particularly interested in the remark which Professor Beresford Pite made, that there being no street architecture at that time, there were no architects. He has put into epigram what seems to represent very closely the actual fact. I believe I am right in saying—though one hesitates to say it in company like this—that town architecture began with amateurs: there were amateurs who built houses in our crowded towns a good stretch of time before there were professional men who were engaged to build them. Some of the most "notorious" architects—shall I say?—such as Lord Grimthorpe, have been amateurs. In the rebuilding of London after the Fire, it is the fact, as Professor Pite suggested, that the houses grew up individually, one at a time. As the owner of the house, or the owner of the land, found money for the purpose he put his house up, without consideration for the house which was built on the right or the left of it. But the Act of Parliament had obviously realised what was going to take place, and the directions given provided both for the type, or class, of building and for the correct keying of every house. The surveyors were charged to see that the brestsummers were not broken, except where they directed. And when at last the separate houses made continuous streets, we find the sort of street which I illustrated by the adjoining houses in Copthall Avenue, as compared with the jumble of houses of all shapes and sizes and heights which prevailed before the Fire. The new City was formal and plain, but, on the whole, I think it was a pretty City. Mr. Davidge asked me to deal with the influence which the Great Fire has had upon the state of things to-day. That I should be delighted to do, but time is too short. I think the most obvious debt we owe to the Great Fire is the reduction of steep hills, and the doing away with many sharp turnings, which were common in the mediæval City. Its effect is also seen in the widening of certain streets, although the general widening and opening out of the City of London did not take place after the Great Fire, but largely in our own time. Mr. Davidge also asked me whether I had found evidence of preferential control in the requisitioning of materials or labour for public buildings. I do not think I have found any, but I can recall one particular instance which may interest him. The Royal harbour works at Sheerness had been started before the Great Fire, and after the Fire they were interrupted, owing to the artificers flocking to London. The King, therefore, gave an order to the Masons' Company and to the Bricklayers' Company to send men to do the work, and there is an item in the accounts of the Masons' Company of £3 15s. "paid to impress men and send them to Sheerness." Evidently it was found expedient to set a press-gang to act, and so the King's work was finished. With regard to the public buildings, such as the Guildhall, Sessions House, and the like, I do not think there was any preferential treatment: the question of supply and demand seems to have covered the whole thing. Within six years of the Fire, the competition between the freemen of London and the "foreigners"—non-freemen who came to London from the country—became very keen. The London freemen gradually threw out of employment the others, until it was complained that the artificers from the country were left stranded on the roads, and were liable in their distress to become thieves and footpads. Ogilby and Morgan's map shows much which could not have been completed by 1677. By this time the dwelling houses in the City and the commercial warehouses had been practically finished. But a number of open church sites broke the continuity of the City; on some the churches were then being built and on others not even the foundations had yet been dug.

REVIEWS.

SHAKESPEAREAN PLAYHOUSES.

Shakespearean Playhouses. By Joseph Quincey Adams, Cornell University, U.S.A. (Houghton Mifflyn Co.)

Mr. Adams has given us in a very handy volume a concise history of English theatres from the beginning to the time of the Restoration. The arrangement of the book is excellent. The history of each theatre from its inception through its varied occupation to its end is separately given, and as far as practicable the series is in chronological order.

The earliest playhouses were the courtyards of the old coaching inns. The open yard was spacious, and around it on three sides were one or two storeys of galleries or balconies giving access to the rooms on the upper floors. The stage was erected on barrels or other temporary supports in the open yard, and the general public stood in the "pit," while the galleries filled with benches or chairs were reserved for guests or "the quality" who came to see the play. These inn yards remained the type on which theatres were planned nearly all through the great period, and it may be said that they are the prototype of the theatres of to-day. It is true the rectangular plan gave place to a polygonal or circular arrangement of seats, and this naturally led to a similar plan of the building itself.

In the Elizabethan and Jacobean period under review seventeen theatres were constructed :—

1.	The Theatre ...	... opened about 1576
2.	The Curtain	 1577
3.	The First Blackfriars ...	1576 or 1577
4.	St. Paul's	 1578
5.	Newington Butts ...	... before 1580
6.	The Rose	 1587
7.	The Swan	 1595
8.	The Globe	 1598
9.	The Fortune	 1600
10.	The Second Blackfriars	 1600
11.	The Whitefriars ...	 1605
12.	The Red Bull	 1605
13.	The Hope	 1613
14.	Rosseter's Blackfriars...	 1617
15.	The Cockpit or Phœnix	 1617
16.	Salisbury Court ...	 1629
17.	The Cockpit-in-Court ...	 1632

It is interesting to observe that the location of most of these theatres was determined by the social conditions of the time. The Corporation of London, the governing body of what was then the whole of London, including its outwork Southwark, had steadily set its face against playhouses and would not allow any to be erected within its jurisdiction. The would-be proprietors had to look elsewhere for sites convenient to their public who lived within the City. The monasteries in and around London dissolved by Henry VIII had passed to the Crown, and their lands were outside the Corporation's jurisdiction. To these the proprietors turned, and there found their homes. "The Theatre" was in Finsbury Field on the former Holywell Priory Estate. "The Curtain" was on part of the same property, called the Curtain Estate, and only just south of "The Theatre." "The First Blackfriars" was in what had been the buttery of Blackfriars Monastery on the City side of the river; "The Second Blackfriars" (the site of which is now the *Times* printing office) was the former fratery parlour and hall of the same monastery; "St. Paul's" was in the Cathedral precincts, probably the Choir School; "The Whitefriars" in Bouverie Street was the one time refectory of that monastery; "The Rose," "The Globe" and "The Hope" were on the Bishop of Winchester's estate on the Bankside, Southwark. The link between "the Church and the Stage" is thus a remarkable one. "The Swan," in the adjacent old Paris Garden, was on Crown land. "Newington Butts," on the ancient archery butts, was also outside the City's jurisdiction. To complete the list, "The Fortune" was in Playhouse Yard, Clerkenwell; "The Red Bull" in St. John Street, Clerkenwell; "The Cockpit" was in Cockpit Street, Drury Lane; "Salisbury Court" just to the south of the present square of that name, and last, "The Cockpit-in-Court," designed by Inigo Jones, was in Whitehall Palace.

The men who stand out before all others of the period in promoting and building theatres and organising companies of actors were the Burbages, Henslowe and Edward Alleyn. They were the energisers and the enterprising spirits of the time. Edward Alleyn, great actor as he was, appears to have combined these qualities with his other talents, and not only so, he was a generous friend to whom the impecunious actor constantly turned for help and advice. A letter has been recently discovered from W. Wilson, a hitherto unknown member of Shakespeare's company then playing at "the Fortune," addressed to Alleyn, asking his favour in regard to a present from the company on the occasion of Wilson's marriage, in which he mentions two other members—Dowton and Juby.

The playwrights of the period are, of course, household names, many of world fame—Shakespeare, Beaumont and Fletcher, Massinger, Thomas Heywood, Ben Jonson, Robert Daborne, Tarleton, Nat Field Manston, Middleton, Chapman, Dekkes, Webster and others. Michael Drayton, the poet and dramatist, was the founder of "The Whitefriars" theatre.

Among the talented actors the most famous were Edward Alleyn (the future founder of Dulwich College), the star actor of the Lord Admiral's Company, selected by the Corporation to address King James on his visit to the City, Richard Burbage, William Shakespeare, John Heminges, William Kemp, Thomas Pope, G. Bryan, A. Phillips, Nat Field (originally one of "the Children of the Chapel," afterwards "the Children of the Queen's Revels," said by Keysar to be "the most expert and skilful of actors in England"), William Slye, W. Osteler (originally one of the children of "Blackfriars") and Condell.

Of these men of affairs, playwrights and actors, Henslowe, Shakespeare, Beaumont, Fletcher, Mas-

singer and Alleyn lived on the Bankside at Southwark near the theatres, and doubtless all took part in the better social life of the parish; Henslowe and Alleyn were both Wardens of St. Saviour's (now Southwark Cathedral); Shakespeare's brother Edmond, Fletcher and Massinger are buried there.

In the earlier days the theatres were private speculations, and the financial position of the actors was a precarious one. They received the pennies paid by the people in the pit and "sent the hat round" during the performance, sometimes stopping for this purpose at an exciting part of the play.

The receipts from the audience of the galleries went to the proprietor of the theatre. Such an arrangement, however, was bound to end when theatres became permanent institutions, and in the companies organised by Henslowe, Alleyn, Burbage, Shakespeare and others the principal actors were "sharers," or, as we should say to-day, "shareholders." It is curious to note how fluid were the companies. They were always changing—dissolving, reorganising, merging one into another, or, more accurately speaking, some of one company and some of another joining together under a new appellation—that of The King, The Queen, or of some patron of influence at Court; then perhaps reverting, and so on in endless mutations, all of which are given in clear detail in the book.

The theatres had their excitements outside those of the drama. In 1598 the landlord of "The Theatre," taking advantage of a technical legal slip, intended to appropriate the building which but for this slip the occupying owners had the right to remove, but the Burbages and members of Shakespeare's company were too sharp for him, taking the law into their own hands; and on the night of the 28th December they pulled down the building, carting away the material to build their new house, "The Globe." How they must have enjoyed themselves!

In 1613 the first "Globe" was burnt down during a performance of Shakespeare's *Henry VIII.*, when the wadding of a discharged gun set fire to the thatched roof.

In 1617 "The Cockpit" was wrecked internally by a mob of 'prentices almost as soon as it was finished.

In 1620 the first "Fortune" was burnt down.

In 1649 "The Cockpit" and "The Fortune" were internally wrecked, and "Salisbury Court" was pulled down by soldiers. It was reconstructed, but in 1666 was burnt down in the Great Fire of London.

In 1698 "The Cockpit-in-Court" was probably burnt down in the fire at the Palace.

The City authorities were inimical to theatres as such, and they constantly harassed the proprietors in one way or another. When they had no authority of their own they used their influence with the Privy Council to stop plays, succeeding in one case in permanently suppressing the theatre. In 1597 "The Swan" was closed by the Privy Council in consequence of a play which gave offence. In 1608, as a result of a play at "The Second Blackfriars," which offended the King of France and King James, the career of "the Children of the Chapel" was terminated.

The plague in London constantly interfered with the theatres, which were closed to prevent the spread of infection. Sometimes the companies went for provincial tours, but often great distress arose among actors and workmen.

It has been mentioned that the tradition of the old coaching inns was continued in the new theatres. "The Theatre," "The Curtain," "The Rose," "The Swan," "The Globe," "The Fortune," "The Red Bull" and "The Hope," all had uncovered "pits" in the centre, and in many the stage was uncovered, but the surrounding galleries were roofed in. The first "Fortune" was a square building externally, the others were all either polygonal or circular, and when "The Fortune" was burnt down it was rebuilt on a circular plan.

Nearly all the new theatres were constructed of timber lathed and plastered, but "The Swan" was of flint. They were large buildings. De Witts states that "The Swan" held "in its seats" 3,000 people.

"The Cockpit-in-Court"—the first Theatre Royal—was a stone or brick building on a square plan, octagonal inside. Inigo Jones's original drawing is in Worcester College Library, Oxford. It is refined and masterly. The design of the back of the stage—the Proscenium—was inspired by that of Palladio's Teatro Olimpico at Vicenza.

The theatres in Blackfriars and Whitefriars, constructed as has been noted in the old monastic buildings, were, of course, covered, and this led to an arrangement by which the "covered" theatres were used for winter performances and the Bankside "open" theatres for summer ones by the same companies; thus "The Second Blackfriars" was the winter home and "The Globe" the summer house of Shakespeare's company, under Burbage; and "The Whitefriars" held the same relation to "The Swan" under Henslowe. "The Blackfriars" thus occupied was so great a success that complaint was made by officials and inhabitants of the interference with traffic from "such multitudes of coaches that sometimes all the streets cannot contain them, but they clog up Ludgate Hill also," and the Corporation vainly tried to close the theatre, but the King came to the rescue of the company.

The whole subject is a fascinating one, but the limits of a review do not permit of further detail. It may therefore be appropriate to conclude with a reference to the passing of the great actors who contributed to the glory of the period. Pope died in 1603, A. Phillips in 1605, W. Slye 1608, Osteler in 1614, Shakespeare had left the stage before 1614 and died in 1616, R. Burbage died in 1619, Heminges outlived them all except Field, and in 1623 Heminges and Condell collected and published Shakespeare's plays; Condell died in 1627, Heminges in 1630, N.

Field in 1632. Edward Alleyn retired from the stage probably before 1610, and died in 1626.

EDWIN T. HALL [*F.*].

CO-OPERATION OF ARCHITECTURE AND BUILDING.

I HAVE read with more interest than satisfaction the discussion on co-operation in building works in the February issue of the Institute JOURNAL, in which there seems to have been a consensus of opinion that, in consequence of the war and the legislation resulting from it, our profession, as a whole, is not only seriously affected, but is in danger of being blotted out of existence, unless indeed some drastic change is made in the constitution of the Institute. The socialistic scheme formulated by Mr. Lanchester is, I fear, too visionary for general application, for it could certainly be adopted in only a very few offices. The suggestion of Professor Beresford Pite, that architecture and operative building should be united and practised under one management, seems much more to the purpose we all have in view, viz., the advancement of architecture, the improvement of building construction, and the protection of the public in all matters relating to the building arts and crafts. But even the Professor stopped short of promulgating a scheme for uniting them. I therefore crave indulgence for the admission in the JOURNAL of a few more words on the subject.

The mere suggestion of unity in the arts and crafts of building carries the mind back to the old Masons' Guilds of mediæval days, where they did practise architecture and operative building as a single business or profession, a unity that developed and constructed the finest architecture the world has ever known. I do not hesitate to reassert this fact, for the evidence in its favour is so strong that I feel none but those with prejudiced minds will in these later days venture to dispute it. Is it not, therefore, possible to reorganise our professional Institute on the basis of those old Guilds?

I do not suggest the adoption of their system in its entirety, for so many changes have taken place in the handicrafts of building since the Middle Ages—such as improvements in the manual tools of the trades; the introduction of machine tools; and the application of steam, gas, electricity, etc., as driving power to those tools—as well as the inventions of manufactured building materials which now take the place of natural unallied wood and stone of former days, together with many other developments in the building trades. We at once realise the importance of taking those changes into consideration in devising a scheme for improving the building arts and crafts.

But of all the changes that have taken place during the last century none has been greater than the evolution of the sciences, for whether in commerce or in manufactures, in agriculture or in war, science has become a first principle of their development, and so in like manner science must exercise considerable influence in any future advancement of the arts and crafts of our profession; we must indeed devise some means by which art in architecture and the science of the building crafts can be united in such a manner that each will help the other to develop and progress.

To achieve that object it is necessary to provide special instruction for those who are to practise our profession in the future—and I conceive that the very foundation of the knowledge to be imparted must be based on a sound perception of the natural laws of the universe, such as air, light, heat, electricity, etc., the elements of which should be taught in every elementary school; but the application of those laws to good building could, I am persuaded, be best taught at a technical college, with schoolrooms and workshops specially arranged and equipped for the purpose attached thereto. But the students should be not only trained in the college schools and workshops; they should at the same time be provided with the opportunity of seeing building construction in the actual course of execution, so as to fit them as architects and masters to design and superintend the erection of buildings in their future career.

I therefore suggest that, in addition to the college schools and workshops, there should be a builders' yard, either within the college precincts or immediately adjacent thereto, with journeymen's workshops, foremen's offices, storerooms, etc., surrounding it, and a timber and stone yard in the centre, in which to carry on a local building trade, and as time passed on and business increased that branch building businesses should be established in other parts of the country where it may be thought desirable and as good prospects of success presented themselves, just as a few large builders do at the present time and as they were by the old Masons' Guilds in the past.

I suggest that the governing body of the present Royal Institute, with such assistance as they may deem it desirable to obtain, should organise and establish a new Institute to meet the needs of these modern days; and though I venture to promulgate a scheme which I believe would effect that object, I do it with all deference to their better judgment.

The proposed new Institute might be designated "The Royal Institute of Builder Architects," and I suggest that its headquarters should be, not in London, nor in any large town, but in or near a provincial town of moderate size, where land could be acquired and buildings erected more cheaply, where the cost of living and other needs of the students and workmen would be less than in large towns of the Empire, and—what is more important still—where the students and workmen would be freer from the temptations to evil and the serious consequences arising from it, which seem inseparable from large communities.

The business of this new Institute would be of a

comprehensive character, but as the whole affairs of the present R.I.B.A. are managed by the Council, so also could the whole affairs of this Royal Institute of Builder Architects be managed by a Council, assisted, as they would be, by the various Committees elected to preside over and manage the respective departments of the institution; and provided likewise that each member of the Council and Committees possessed the requisite qualifications for the duties they would be required to perform. Those qualifications would probably be made dependent on the degrees taken by the members in the students' curriculum of the Institute, which degrees I will, by way of illustration, define as follows:—

Master: A subscribing member who has graduated in the finer arts of architecture and in the four arts of operative building into which the students' curriculum may be divided.

Fellow: A subscribing member who has graduated in the finer arts of architecture and in *three* of the operative arts of the building crafts.

Associate: A subscribing member who has graduated in the four operative arts of building, but *not* in the finer arts of architecture.

Graduate: Must have passed a preliminary examination in general education, including the natural laws of the universe, before admission to college, and after admission must be articled and pay a premium.

Industrial: A non-subscribing artisan or labourer in the Institute employ, whose qualification for employment might be (after a probationary term) a certificate of good character and of his fitness and ability to execute the kind of work on which he seeks to be employed, which certificate, however, should be cancelled and given up if he leaves the Institute employment within three years from the time of his engagement. His inducement to seek employment under the Institute might be preferential engagement over other workmen, and, after a probationary term, the privilege of using the initials I.R.I.B.A. after his name.

Subscribing members only should be entitled to vote on matters affecting the Institute and its business generally.

I suggest that only "Masters" of the Order should be eligible for the appointments of managers of building establishments at either the headquarters or at the branch establishments, nor should any member be entitled to design an important building for execution without the sanction of the Council.

To carry the scheme a step further, I suggest that subscribing members should be invited to assemble at the Institute periodically—say every six months or, at any rate, at intervals not exceeding one year—to elect the President and Council; to discuss the general business of the Order; to receive reports from the managers of the branch establishments; and, in fact, to transact any other business on which the members were entitled to vote.

The members of the respective Committees of Departments should be selected and appointed by the Institute Council, and each Committee would, of course, elect its own chairman; but all their business transactions, and all other matters relating to the Institute, would be subject to the approval of the Council, whose decisions should be final and binding on all parties concerned.

There is just one more point to refer to, and that is the degree of the titles of the members of the present R.I.B.A., to which I may point out that, to avoid injustice or dissatisfaction, their titles might be transferred to the new Institute, subject, of course, to those members continuing to pay their annual subscription thereto. For instance, Past-Presidents may be designated Grand Masters, Members of the Council Masters, Fellows could still be Fellows, and Associates remain Associates—all of them of the new Institute.

If such a scheme as above outlined were adopted I am persuaded it would not only re-establish our profession on a sound and honourable basis, but it would be the means, in a comparatively short time, of developing an architecture that would surpass in artistic beauty that of the Middle Ages, and although there might be some prejudices against it to contend with in its early stages (for there always are prejudices against new inventions, however good they may be), the superiority of its architectural design, and the higher quality of the building work of this Institute over that of the ordinary builder would soon be recognised, and the architects and builders of the new Institute would be sought for and engaged to design and erect the most important public and private buildings throughout the country.

W. WATKINS, SEN. [*F.*].

Lincoln.

REPAIRING ST. PAUL'S.

THE following extracts from a signed article by Mr. C. E. Sayer [*A.*] which appeared under the above heading in *The Manchester Guardian* of 26th February are of interest in connection with Mr. Mervyn Macartney's Paper read at the Institute in November 1907. After a short historical introduction the article continues:

In 1751 Flytcroft, Surveyor to the Fabric, reported, attributing the settlements to the rubble core of the piers and walls, and this, the earliest extant report, has been confirmed by recent discoveries. Things grew worse, and pieces of stone fell from time to time into the church, and in 1781 Mylne, then surveyor, was entrusted with the repairs, and the building was closed for eighteen months. Unfortunately, Mylne proceeded to conceal rather than to make good the defects. He cut away the faces of the broken stones and covered them with a veneer two to four inches thick held in place by iron dowels or pins, which in course of time have been destroyed by rust, leaving the veneer hanging precariously to the other masonry, whilst no additional support was given to the structure except by some solid work in the crypt.

It is necessary to bear in mind that, in spite of its Classic dress, the building is essentially Gothic in its construction, with flying buttresses, and massive walls depending chiefly on their weight for stability, and that the scientific novelties introduced by Wren were almost entirely confined to the dome, which is a wonderful example of engineering skill. In the main he had to depend on traditional methods and materials. Masonry is the most conservative of crafts, and Wren's masons were all trained in the Gothic tradition, which by the use of small stones and thick joints seems to have aimed at, and certainly attained, great flexibility in buildings. It was the attempt to graft on to this method the large facing stones and thin joints of the Classic manner that was the cause of the trouble.

The facing of Portland stone with joints $\frac{1}{4}$ inch thick has behind it a core of small rubble of Kentish rag, chalk, and five or six other kinds of stone, probably taken from the ruins of the old Cathedral, set with very thick joints of rather inferior mortar. It is evident that when the weight of nearly 5,000 tons on each pier was applied the mortar, being the softest part of the structure, would be compressed, and the core with four or five thick joints to one thin one of the facing would settle most, thus throwing an enormous strain on the Portland stone. This splendid stone stood the strain on the whole in a marvellous manner, but many stones were crushed and shivered, and the loud reports and falling pieces which would result must have been very alarming. These facts are quite enough to account for the subsidences which have taken place, and there seems to be no evidence of any failure of the foundations. Under these circumstances the architect to the Dean and Chapter advised a thorough repair, beginning with the worst pier—that of the west side of the south transept arch.

During the last three years all the broken stones of this pier have been entirely cut away and replaced by carefully selected Portland stone, and the core has been consolidated as far as possible by grouting. The work has now reached the springing of the great arches, some of the lower stones of which it will be necessary to replace, and then the first stage will be complete.

The work has been much more extensive and costly than was expected, and must have given many anxious hours to those responsible; it is altogether an admirable job, and reflects great credit on all concerned. As an instance of the thoroughness with which the problem has been treated it may be mentioned that at every critical point where any fresh movement in the building would be likely to show scientifically constructed gun-metal tell-tales, capable of being gauged and levelled to one-thousandth part of an inch, have been fixed. These are most carefully tested every week, and it is satisfactory to know that no measurable movement has been registered anywhere during the three years they have been in use.

CORRESPONDENCE.

American Timbers.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—I have read with interest the article in your January and following edition by Mr. John R. Walker, United States Trade Commissioner, and the remarks made by members of your Institute. It is certainly of the utmost importance to bring before architects, engineers, and other users of timber, complete information regarding the future of supplies, and especially those from our Allies and our Colonies. American supplies deserve the most careful attention. The proposal to have samples shown and information published regarding all available American timbers is undoubtedly a good one, and in this connection it would be possible for me to assist, as I think I should be able to produce specimens of sufficient dimensions and all the necessary information to enable enquirers to satisfy themselves regarding the qualities of the various timbers and the sizes in which they are to be obtained. It is certain that the demand after the war will be so general and on such a large scale, and the cost of transport still so heavy, that it will become necessary for us to accustom ourselves to entirely new conditions.

Mr. Walker has speculated upon the causes which in the past, under pre-war conditions, have resulted in the very limited uses of American supplies. He advances as his prominent reasons :—

(1) The manufacture and specifications which have been customary for the American lumbermen to provide—that is, the lengths, widths, and especially the thicknesses.

(2) That the different varieties are not sufficiently well known to those who have the ordering of material.

(3) That the thicknesses are bare or, as it is sometimes called, "shy."

In regard to (1). It is true excepting as regards Oregon Pine or Douglas Fir (*Pseudotsuga Douglasii*) that the American specifications customarily provided are very different from those which are ordinarily used in this country. In timbering work the joists, rafters, etc., for any large building necessitate the supply of perhaps thousands of pieces all of one or two lengths, or in any case only a few variable lengths; and one or two widths, or in any case only a few widths. The American custom of sawing random widths is, and still will remain, a disadvantage so far as most of the varieties of American timber are concerned. Supplies of Oregon Pine have generally been obtainable in sufficient quantities of any lengths and widths which might be required, and cannot be included in the same category. It does not seem possible that the regulation specifications adopted by American lumbermen, which run from 4 to 16 feet and in random widths of from 4 inches to 18 inches, including all widths—*i.e.*, increase of an eighth of an inch at a time—can ever be very conveniently used in the United Kingdom build-

ing trade. The question is, whether it will be possible to persuade American lumbermen to adopt specifications which would be more suitable for our requirements. These disadvantages, however, are only partial. To realise the fundamental differences between American uses and our own, more than one visit to America and a study of their conditions are necessary. For a number of years we have been accustomed to use solid timber in solid work; built up work and the adoption of other material for strength, with the use of timber as a decorative article—or as Americans term it "trim"—has only been adopted here during the last few years. The climatic conditions in America are quite different from those here. The extreme and variable dry and humid heat which is experienced there, and the extraordinary sudden variations of both, are conditions unknown in this country. Similarly, the continuous trying damp atmosphere of this country is unknown in America, and the result is that built up wood work in the United Kingdom has not on the whole been a success, and undoubtedly the use of solid woods as adopted here has not been successful in America. As illustrating this, works of art in furniture, in Sheraton or Adam style, which have remained in perfectly sound condition in this country for perhaps 150 years or more, when exported to America have fallen to pieces and the veneer and solid work separated. On the other hand, the ply construction made use of in America for furniture, trimming, pianos, etc., is found to be unreliable and not to stand well in this damp climate.

In regard to (2). I think the different varieties and qualities of timbers available from America are certainly very generally known. The use of Oregon Pine (Douglas Fir), which in other respects provides ample quantities in suitable specifications, has been very much restricted, notwithstanding the fact that it is generally more free from knots and sap than Baltic Fir, because it has never been considered, and probably is not so durable, and on account of the fact that was mentioned by one of the gentlemen at the Meeting, the grain will rise after preparation, resulting in a ridgey surface which shows even under paint or varnish. For many years past Louisiana Cypress (*Taxodium distichium*) has been in request by a few who value the extraordinary qualities of durability which this wood possesses, but supplies have been difficult to obtain in sufficient quantities and of sufficient dimensions, and generally the much higher cost has decided the question in favour of Baltic Fir.

In regard to (3). I do not think Mr. Walker is correct in his impression that the American thicknesses are bare or "shy," as he has explained. At any rate no complaints have been made on this account, and on the whole the thicknesses to which American timber is cut are quite as stout as the same thicknesses obtained from other countries.

It will therefore be seen that we must look for other causes to explain the limited use to which American timbers have been put in the United Kingdom for building purposes referred to by Mr. Walker, and there is no doubt that the one feature which has entirely ruled the situation has been the question of cost. Unlimited supplies have been available from the Baltic and elsewhere which could be put on the market at a cost with which the American has been unable to compete; even Oregon Pine, which has been provided generally at prices which have been hardly sufficient to encourage the trade, has to be included in the same category. Radical changes are now likely to occur, and it may confidently be expected in the future that American supplies can be provided on a more equal footing as regards cost.

All business and professional men who are interested in the uses of wood should do everything possible to cultivate and encourage American trade, and it would afford me pleasure to be allowed to assist in any direction in which my services would be helpful.—Yours faithfully,

ALEXANDER HOWARD.

38 *Trinity Square, E.C.*3.

Mr. Henderson's "Byzantine Splendour."

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The Institute is to be congratulated on having acquired the loan of Mr. Arthur E. Henderson's latest and greatest scholarly painting. I was restudying it a few days ago and found fresh interests in the subjects, which are certainly based on known examples re-designed to suit his general scheme. By this means he has avoided making it a museum of architectural examples with no relation to each other.

Take the great white column—one can see a pillar from the Hellenic Temple of Diana at Ephesus, with its carved lowest drum and sculptured plinth, but it only forms a glorified part of the picturesque little group of columns at the south-west angle of St. Mark's at Venice, and the twist given to the flutings must come from those delicate columns in the façade of San Lorenzo in Rome. In his main capital, which is of basket form, on its face, instead of the general fleur-de-lis, Mr. Henderson has placed a most delightful human butterfly, reminiscent of Wedgwood ware. His handling of the colour is also good, all leading up to the grand and noble dome. The grouping of his brilliantly coloured figures as a base to his columns and piers is masterly, and the continuity of the colours might almost be compared to the roots of a forest.

A picture such as this requires a much longer time to study and memorise than any chapter in a history book. It is such a picture as the Chinese delight in (a letter I have seen from a business man in China states: "I have seen native connoisseurs seated before pictures, on the fascination of which they have feasted for hours on end"). It would be a great kindness if Mr. Henderson would write a full description of the work stating the subjects he has utilised and his artistic alterations.

I would ask all who have not seen this painting, which has previously been on exhibition at the Galleries of the Royal Society of British Artists, to go to the Institute and study it well. I know of no other picture like it; although it is somewhat lacking in the usual pictorial obscurity and rendering, and the figures are rather sculpturesque, it is nevertheless worthy to be placed in a gallery where the public might be taught something about the beauties of architecture.

Our picture galleries are lamentably deficient in good paintings of great architectural subjects. I do not refer to pictorial or exact renderings of existing examples, but to such imaginings as Claude and Turner excelled in, in chiaroscuro. Our modern artists such as Leighton and Alma Tadema had no professional architectural training; their rendering of the classic Greek is magnificent, yet neither ever attempted such an appallingly difficult task as Mr. Henderson imposed upon himself, and at best their architecture was only used as a background to their splendid painting of the human figure.

It would be a lamentable loss to both the architectural world and picture lovers if this work were to fall into the possession of a private individual, and I would suggest that the right place is at the Tate Gallery or the City Guildhall Art Gallery.

Yours faithfully,

ERNEST L. HAMPSHIRE [*A.*].

LEGAL.

The Model Bye-laws and the Public Health Acts Amendment Act 1907, Section 23.

On the 3rd May the Court of Appeal (Lord Justice Pickford, Lord Justice Warrington, and Lord Justice Scrutton) delivered considered judgments dismissing with costs an appeal from the decision of Mr. Justice Bailhache in the case of *The Governors of Repton School* v. *Repton Rural District Council.* The case arose out of building alterations, including an addition to the house of a projection three stories high, with a room on each floor, in one of the School boarding-houses (Mr. W. A. Forsyth [*F.*], architect). The action raised questions whether one of the Local Government Board Model Bye-laws was valid, and Mr. Justice Bailhache held that it had become unworkable and was void. The facts of the case and Mr. Justice Bailhache's judgment are reported in the JOURNAL for November, 1917, pp. 14–15, and as the decision was upheld for the same reasons, it is unnecessary to go over the ground again and report the proceedings in the Court of Appeal. These are fully recorded in *The Times* for the 4th May, and in *The Builder* of the 10th. As Lord Justice Pickford says in his judgment, the case is important because it affects a great number of bye-laws throughout the country. The bye-law in question was No. 12 of the Model Bye-laws [JOURNAL, Nov. 16, p. 14], and seeing that Section 23 (*d*) of the Public Health Acts Amendment Act, 1907, has so greatly extended the definition of a new building, the Court held that the Bye-law as applied to air space at the rear of the additions proposed to this building was so unreasonable as to be invalid.

CHRONICLE.

Building after the War.

The Council of the Institute having been invited by the Building Materials Supply Committee of the Ministry of Reconstruction to appoint representatives to express the views of the Institute on questions contained in a reference to the Committee respecting the supply of materials, &c., after the war, the President, Mr. Paul Waterhouse, Vice-President, and Mr. John W. Simpson, Past Vice-President, were appointed. The representatives were requested to furnish the Committee in advance with a précis of the evidence proposed to be submitted, and this was done in the following letter addressed to the Secretary of the Committee:

7th May 1918.

SIR,—With reference to your letter of the 16th March addressed to the Secretary,

We beg to inform you that we have been appointed by the Council of the Royal Institute of British Architects to represent to your Committee their views as to clauses 3 and 4 of the Reference from the Ministry of Reconstruction. In accordance, therefore, with your request, we have now the honour to append a summary of the views we are instructed to entrust to your Committee upon the subjects covered by the clauses referred to.

For greater clearness we have sub-divided the paragraphs of the Reference under headings as follows:

Paragraph 3:

(A) "In the event of the supply of material or labour being insufficient to fulfil the total building demand,"

(B) "to consider the principles and method by which the priority of various claims should be settled";

(C) "and to report what steps are necessary to ensure that the manufacture of the materials, so far as they are at present inadequate, shall be extended in time to secure sufficient quantities for use when required on the cessation of hostilities";

(D) "and to recommend what steps should be taken during the war to facilitate a prompt commencement of building work at that time."

Paragraph 4:

(E) "Generally, to consider and report upon any conditions affecting the building trades which tend to cause unduly high prices";

(F) "and to make recommendations in regard to any measure of control which it may be desirable to exercise over the purchase, production, transport, or distribution of material."

SUMMARY OF VIEWS TO BE SUBMITTED.

Paragraph 3:

(A) In view of the long period during which building operations other than those directed to the furtherance of war have been practically suspended, the dislocation of manufactures and shipping, and the shortage of labour, we think it may be assumed as certain that the supply of materials will be insufficient to meet all demands at the termination of the war.

(B) One claim only should be considered as entitled to priority—viz., that of works to be executed by, or on behalf of, the Government for immediately urgent national needs. All other claims should be regarded as equal; in other words, markets should be left free and unfettered by restrictions, so that production may be

stimulated to its utmost, and prices thereby reduced to a normal level at the earliest possible moment.

(C) An increased output of material during the war depends almost wholly upon the amount of labour available for the purpose. To deal with this question would involve consideration of the relative allocation of manpower to military and civil necessities; and it does not appear to us that we can usefully offer suggestions upon such a matter.

(D) For the purpose of the urgent Government works referred to under heading (B), we recommend that material should be accumulated and secured in advance, by immediate purchase of available stocks, by such earmarking as may be practicable both at home and abroad, and by expediting present production so far as that may be done without affecting the conduct of the war.

For all other purposes the building trade should be encouraged to proceed with the organisation on a secure basis of the immense future operations which it will be called upon to undertake. To this end an authoritative assurance should be given at once that the control of Government departments, whether as regards the supply of material or the erection of buildings, will cease at the termination of hostilities. Without such an assurance all the plans of private enterprise can be but tentative and uncertain. It is necessary that security should be assured for their projects before these can be usefully formulated.

Paragraph 4:

(E) The chief cause of unduly high prices is the present system of payment for time occupied instead of for results obtained. This system tends both to restrict output and to diminish the purchasing value of wages paid. There should be no limit to the income of a workman except that of his capacity to earn it.

(F) We believe that the abolition of control is the true, and only sound, method whereby markets in material and the building industry generally can be restored to healthy conditions. We endorse the opinion of Lord Inchcape (*Times*, 22nd April last), that "the less Government officials or quasi-Government officials are permitted to interfere with trade the better will it be for the country and for its financial stability. . . . There is an idea in some quarters that the Government, through officials, could with advantage to the community carry on the business of the country. No more fatal error could be conceived. No greater delusion ever took possession of the human mind."

"The day of peace," writes one of the great London building contractors, "should also be the day of liberation for British industry from the fetters to which it has patriotically submitted during the time of national danger." We entirely agree,

and have the honour to be, Sir,

Your obedient servants,

HENRY T. HARE, *President R.I.B.A.*
PAUL WATERHOUSE, *Vice-President R.I.B.A.*
JOHN W. SIMPSON, *Past Vice-President R.I.B.A.*

The Annual General Meeting.

The Annual General Meeting was duly held on Monday, 6th May, the President, Mr. Henry T. Hare, presiding. The Report having been formally presented, the President moved its adoption, and the Hon. Secretary, Mr. E. Guy Dawber, seconded the motion.

Mr. WM. WOODWARD [*F.*] recalled that this was the twenty-second anniversary of his passing in review the Report of the Council. Last year he had expressed the hope that when the next anniversary arrived peace would have been restored. Peace, however, was not with us yet. He believed—and was sure he was expressing the views of the nation—that when peace was proclaimed it would be peace upon our terms, and that we should have under our heels the vilest reptiles that had ever been permitted to encumber the earth. The Institute's normal losses by death during the past year numbered twenty-nine. They all regretted the loss of these members; but there were two or three among them who had special claims upon their remembrance. Howard Chatfeild Clarke was an architect and surveyor about whom they could say that, whether they were with him or against him in actions-at-law, they knew that in him they had all that was best and fair in professional etiquette and ability. Then there was Gerald Horsley—a more good-natured, a more generous-hearted or more thorough English gentleman they could never hope to meet. Walter Spiers and Francis Bond were also losses which they would never cease to deplore. They had, too, on that occasion to express their deeply sorrowing regret at the further heavy list of members fallen in the war. That a total of 1,248 members of the Institute should have joined the Forces was, he thought, highly creditable to the profession. Some of them, he was happy to find, were mentioned in the Report for conspicuous bravery and distinguished service in the field. Many members had suffered the loss of relatives near and dear to them. To these we extended our deepest sympathy in their bereavement. Everyone would agree that the Royal Gold Medal had been most worthily awarded this year to Mr. Ernest Newton, their Past-President. As regarded the Informal Conferences, he had read the reports of these, and might express the fervent hope that something would come of them; but he was inclined to doubt it. Another reference in the Report was to the housing of the working classes and the Government housing schemes. In his opinion much of what had been said with regard to this matter and with regard to town planning was premature. One should provide for the future, but no one knew what the conditions would be at the end of the war, when men and women now engaged in work connected with the war had to seek other occupations. Probably thousands would never return to their pre-war avocations. The idea, therefore, of the Government providing money for houses for the working classes without knowing what would be their wants was altogether premature. It might be that nothing like the number of houses would be required that the Government thought, and therefore nothing like the amount of money which the Government proposed to allocate to these works would be wanted. To his mind, such sums ought never to be allocated for this purpose, and for the reason that the money would ultimately come out of the pockets of those who paid heavy taxes for the provision of dwellings for those who ought to, but did not, pay taxes. He was pleased to see on page 125 that architects had been appointed to positions in various Departments of the Government. He did not know any of these gentlemen, but bearing in mind the millions of money which had been squandered by the present Government he hoped they were being properly paid for their services. As regards the National War Museum he was pleased to find that the Council had recommended an open competition for the building. That was the right thing to do. But his own personal view was that it was an altogether wrong idea to spend millions of money to commemorate the horrors of the most hellish war that had ever been perpetrated throughout the history of the world. If anything of the kind was desired there was the United Service Institution in Whitehall, the adjuncts of the Tower of London, and South Kensington, to house the various things required for the Museum. Touching finance, the figures showed that in

1913 there was a surplus of income over expenditure of £1,302, and that, notwithstanding the war, they had in 1918 £241 surplus of income over expenditure. That surplus was very satisfactory and was no doubt largely due to the efforts of the Staff to keep down all that they possibly could in the way of expenditure. Coming to the Reports of the Standing Committees, in the Art Committee's Report there was a reference to the Church of St. Olave's, Southwark, to which he would like to refer. The Institute had, in days gone by, intervened many times for the preservation of structures of interest to lovers of architecture and archæology. St. Olave's Church was, he hoped, a building which would be preserved. Standing upon London Bridge and looking across the river one could see what was, to his mind, a very beautiful square tower wedged in between large blocks of warehouses. That was the tower of the Church of St. Olave's. Towards the river was the burial ground with some tombstones, and a wall which, at the present moment, intervened between the view of the Thames and the burial ground. The removal of that wall and the taking in of the landing stage would provide an excellent open space, which was greatly wanted in that particular locality. He trusted that the efforts which the Institute had made in trying to preserve St. Olave's would be successful and that we should see not only the church preserved, but the open space in front taken down to the river, where people in that locality would be able to enjoy, for many years to come, a pleasant view of the river and comfortable seating accommodation. The Librarian's Report was satisfactory. It showed that 2,032 readers attended the Library this year, as against 2,219 last. Bearing in mind the present position of affairs those figures were very commendable to those who were carrying on their studies. They would all agree that Mr. Dircks was entitled to their best thanks for his indefatigable attention to those who took advantage of their magnificent Library. The Report of the Architects' War Committee showed that the Reorganisation Committee had mapped out for themselves a programme which would meet with the concurrence of every member of the Institute and of the profession. If this Committee would prosecute their excellent intentions they will earn the gratitude of all, and not least of our brave young fellows who are fighting in France and Flanders and the various other battle-fronts. Finally he would refer to a very important matter. In that room, on January 7th last, the Institute passed the following resolution: "That in view of the important interests involved, this Institute should, in conjunction with other bodies, take steps to represent to the Government the serious objections to the continuance, after the declaration of peace, of the present war restrictions on building." That resolution was practically unanimously passed on January 7th, yet it was only on April 3rd that a letter was addressed from the Institute communicating that resolution to the Prime Minister. He would like to ask why that long interval was allowed to elapse before the resolution was sent. It was reported in the JOURNAL that a formal acknowledgment had been received. That sort of communication was always followed by an acknowledgment, and, so far as his experience went with His Majesty's Government, that was all they were likely to receive. His view was that if the Institute did not press to its full extent this resolution before the Government they would wake up one morning and find a new Government Department, with something like three or four thousand officials, whose business it was to tell them what buildings they might, and what buildings they might not, erect after the war. He hoped that the Government would be pressed for a definite reply to this important resolution.

In conclusion, referring to the work of the Standing Committees, Mr. Woodward said: Many of us have served on Committees, and those who have done so will agree with me what an enormous amount of time and trouble have been devoted to the service of this Institute. And although I am only on one Committee now, the Practice Committee, and, being on that Committee, am excluding it from the commendation I ask the meeting to pass—though if I were not on that Committee I would ask the meeting to include it in the commendation—I do say, and I do not think we have ever noted it before, at all events at these annual meetings, that the thanks of the Institute and of the profession are due to our President, to the Council, and to those who have been serving on various Committees. And I sincerely hope that the day is not far distant when we shall have back with us Mr. MacAlister and those other members of the Staff who are away from us to-day, and that the Institute this time next year will be able to meet with peace before us, with no overdraft at the bank, with an accelerated number of members, and our dear young fellows back with us, whom we shall acclaim with ever-loving sympathy and let them find that in the interval during which they have been away we have not forgotten them, but have done our very best to provide for them when they come back.

The PRESIDENT said he was afraid he was to some extent responsible for the delay in communicating the resolution to the Government. As a matter of fact they had at the time a Conference of Architects, Builders, and Surveyors sitting at the Institute with the object of arranging a deputation to the Government upon, amongst other matters, the very subject referred to in the Institute resolution. The resolution was kept back in order that it might be dealt with by the deputation which he had reason to hope the Government would receive very shortly. Eventually, however, the resolution was sent through the post in the way reported, because the mover of the resolution insisted on its being sent without further delay. With regard to what Mr. Woodward said about pressing the matter on the Government, he might say that three representatives of the Institute were giving evidence at the Ministry of Reconstruction on that very point, and he could assure members that they would not lose the opportunity of pressing the views of the Institute as expressed in the resolution.

Mr. PERCIVAL M. FRASER [*F.*], referring to the present constitution of the Council, said he was informed that there were only three members of the Associate class on the Council available. This meant that the representation of the Associates, whose numbers were twice those of the Fellows, was one to 544, as against one to 38 of the representation of the Fellows on the Council. He thought that was a very improper state of affairs. They ought to do rather more for the younger members of the Institute during these abnormal times than they had done before. Fellows hardly needed representation; they had made their position, and could look well after themselves, but Associates wanted guiding and helping at all points, and he did not think that the Council were doing that by tacitly agreeing to a representation of one in 544. On another point he thought that Mr. Woodward was inadequately informed. He said the only acknowledgment the Government had made to the representation as to restrictions after the war was a formal one. Mr. Woodward had evidently not had a document which he (Mr. Fraser) had received, headed "New Building Works: Ministry of Reconstruction," the most grotesque document which had ever passed through his hands. It had been severely commented on by the building papers, and rightly so. There was a most slashing article on it in *The Builder*, and he endorsed every word of it. The covering letter stated that this document had gone out under the ægis of the Royal Institute, and he asked if that were the case, and for some explanation as to this remarkable paper which had caused so much Homeric laughter in every department of the building world.

The PRESIDENT, replying to some of the points raised, referred to Mr. Woodward's question as to the payment of those architects who had been taken on in Government

Departments. It was a point the Council had in view, and if anything useful could be done, he could assure the meeting that it would be done. As to the National War Museum, there would be a good deal of sympathy with Mr. Woodward's views. The idea of the promoters, however, was that the National War Museum, if it materialised, should be not to commemorate the most horrible war which had ever taken place, but to commemorate what they hoped would be the last war, and to show to future generations what a terrible thing this war had been. Mr. Fraser had criticised very severely the form issued by the Ministry of Reconstruction. He did not say, however, what exactly were the points to which he took objection. He took objection probably to one particular question, the one which he said was objected to by *The Builder*, as it seemed to foreshadow a system of priority. That was an entirely mistaken view of the case: there was no idea of priority in that question at all. The two points in the reference to that Committee by the Government which that form dealt with had nothing to do with the question of priority of any kind or sort. That was being dealt with entirely separately and apart. As he had said in answering Mr. Woodward, three representatives of the Institute were giving evidence before the Ministry on this question of priority, and the evidence they were proposing to give was such as he had not the least doubt would meet with the approval of those who supported the resolution passed by the Institute in January. With regard to the question of the representation of Associates on the Council, which Mr. Fraser mentioned, it must be remembered that most of the Fellows of the Institute had been Associates, and he was sure that all Fellows might be taken as representing the interests of Associates as well as those of Fellows. It was not quite fair to say that Associates were only represented by Associates; the interests of Associates and the interests of Fellows were, as far as he knew, practically identical. He failed to see where the difference was; it was the general interest of the architectural profession, and this was quite identical in the two classes. The only point was that the Associates were younger men than the Fellows, and it would not be right that they should have the same proportion of representation as the Fellows have. Under the New Charter the representation was to be slightly increased.

Cambridge University and Professor Beresford Pite.

Professor Beresford Pite [*F.*] has had conferred upon him by the University of Cambridge the degree of Master of Arts *honoris causa*. It is interesting to record the speech delivered on the occasion by the Public Orator, Sir John Sandys:—

Vetere usi proverbio dicimus:—"faber est quisque fortunae suae." Hic autem architecturae, quae nascitur e fabrica et ratiocinatione, studio ex iuventute prima deditus, patris et fratris natu maioris in vestigiis in perpetuum feliciter progrediens, et locum summum inter collegas suos adeptus, vinculis artissimis Academiam nostram cum Londiniensibus suis coniunxit. Quid dicam de praelectionibus illis, in quibus urbium condendarum historiam et rationem universam primo ex aevo per litterarum renascentium saeculum usque ad tempora nostra eloquentia tanta prospere prosecutus est? Nostra certe in Academia studiorum nostrorum velut in orbe universo etiam architecturam, viri huiusce cum auxilio, feliciter collocatam esse vehementer gaudemus; scientiam tam utilem, tam pulchram, hodie libenter salutamus; Vitruvii denique verba verissima esse, non minus libenter confitemur:—"Architecti est scientia pluribus disciplinis et variis eruditionibus ornata, cuius iudicio probantur omnia quae ab ceteris artibus perficiuntur opera."*

Duco ad vos architectum eximium, virum de Academia optime meritum, ARTHURUM BERESFORD PITE.

* Vitruvius, i. 1.

MINUTES.

At the Eighty-fourth Annual General Meeting, held Monday, 6th May, 1918, at 5.30 p.m.—Present: Mr. Henry T. Hare, *President*, in the chair; 29 Fellows (including 10 members of the Council), 6 Associates, 2 Licentiates, and 2 Hon. Associates—the Minutes of the previous General Meeting were taken as read and signed as correct.

The Hon. Secretary announced the death in action of 2nd Lieut. Henry William Mann, Royal Field Artillery, *Associate*, elected 1914, and it was resolved that the Institute's deepest regret for his loss be entered on the Minutes and that a message of sympathy and condolence be conveyed to his nearest relatives.

A similar message of sympathy was ordered to be sent to Mr. Wm. A. Pite [*F.*], whose son, 2nd Lieut. Horace Victor Walter Pite, Hampshire Regiment [*Probationer*], was reported missing in Palestine.

The decease was also announced of Khan Bahadur Muncherjee Cowasjee Murzban [*Fellow*].

The names of members nominated for election were announced [see "Notices" below].

The Annual Report for the official year 1917–18 was presented and its adoption formally moved by the President.

The Hon. Secretary having seconded the motion, the Report was discussed, and the President having answered points raised, the motion was put to the vote and carried unanimously.

On the motion of the President a vote of thanks was passed by acclamation to Mr. Henry A. Saul [*F.*] and Mr. H. S. East [*A.*] for their services as Hon. Auditors.

The proceedings terminated at 6.10 p.m.

NOTICES.

A GENERAL MEETING (BUSINESS) will be held MONDAY, 10TH JUNE, 1918, at 5.30 p.m., for the following purposes:—

To read the Minutes of the Annual General Meeting held Monday, 6th May; formally to admit members attending for the first time since their election;

To proceed with the election of the following candidates for membership:—

AS FELLOW.

HOFF: ARTHUR JOHN [*Licentiate*, passed the Qualifying Examination for membership], of 19 Silverwell Street, Bolton; and "Wendenham," Atherton, near Manchester.—*Proposed by* John B. Goss, Paul Ogden, Isaac Taylor.

AS HON. ASSOCIATE.

WEST: REV. GEORGE HERBERT, D.D. [*Associate* 1871–1917], of Selsley Vicarage, near Stroud, Glos.—*Proposed by* the Council.

MR. HERBERT W. WILLS [*F.*] to move the following Resolution:—

That this Meeting express disapprobation of the action of the Council in permitting a form to go out with their sanction in which the following clause occurs: "Reasons (if any) for which you consider it to the National advantage that the building should be erected without delay," and request the Council to inform the Ministry of Reconstruction that the R.I.B.A. is opposed to any form of war control of building operations being exercised after the declaration of peace.